



# CITY OF LODI COUNCIL COMMUNICATION

**AGENDA TITLE:** Approve Task Order with RMC Water and Environment for Preparation of the City of Lodi Recycled Water Master Plan

**MEETING DATE:** November 15, 2006

**PREPARED BY:** Public Works Director

**RECOMMENDED ACTION:** Approve a task order with RMC Water and Environment for preparation of the City of Lodi Recycled Water Master Plan.

**BACKGROUND INFORMATION:** On October 27, 2006, the State Water Resources Control Board (SWRCB) issued notification of award to the City of a \$75,000 Recycled Water Facilities Planning Grant. The grant application was approved by Council on February 1, 2006 and was prepared and processed by RMC Water and Environment.

An important element of the City's long-term water supply is the use of recycled water to serve the water demands of the community. The 2005 Urban Water Management Plan projects that by 2030 up to 2,700 acre feet of recycled water could be used annually within the urbanized area of the community.

An adopted Recycled Water Master Plan is prerequisite to future City grant applications for construction of recycled water facilities. The Recycled Water Master Plan will look at areas of use within the community, as well as the agricultural areas westerly toward White Slough Water Pollution Control Facility. The new development areas of Lodi are conditioned to install facilities that would implement the Recycled Water Master Plan. Agriculture usage will be assessed as part of the consultants' work on the master plan.

The planned Study Area for this Recycled Water Master Plan has been approved by the SWRCB and is provided as Attachment A. The RMC scope of services and estimated fees are provided in Attachment B. Included in the scope of services is coordination with the concurrent Joint Stockton/Lodi Recycled Water Master Plan study.

Early in the study, a Shirtsleeve Session with the City Council will be held to review key assumptions in the program and the general approach to preparing the Recycled Water Master Plan. Completion of the report is scheduled for July 2008. At that time, staff will bring forth the recommendation(s) and request Council approval for moving forward with the recommended alternative.

**FISCAL IMPACT:** Not applicable.

**FUNDING AVAILABLE:**

Water Fund - \$30,000 maximum	Planning Grant - \$75,000
New Development Funding Sources - \$100,000	Reynolds Ranch - \$24,000

\_\_\_\_\_  
Ruby Paiste, Financial Services Manager

\_\_\_\_\_  
Richard C. Prima, Jr.  
Public Works Director

Prepared by F. Wally Sandelin, City Engineer  
RCP/FWS/pmf  
Attachments

cc: F. Wally Sandelin, City Engineer  
Del Kerlin, WW Treatment Superintendent

Paula Fernandez, Senior Traffic Engineer  
Frank Beeler, W/WW Superintendent

Sharon Welch, Senior Civil Engineer

**APPROVED:** \_\_\_\_\_  
Blair King, City Manager

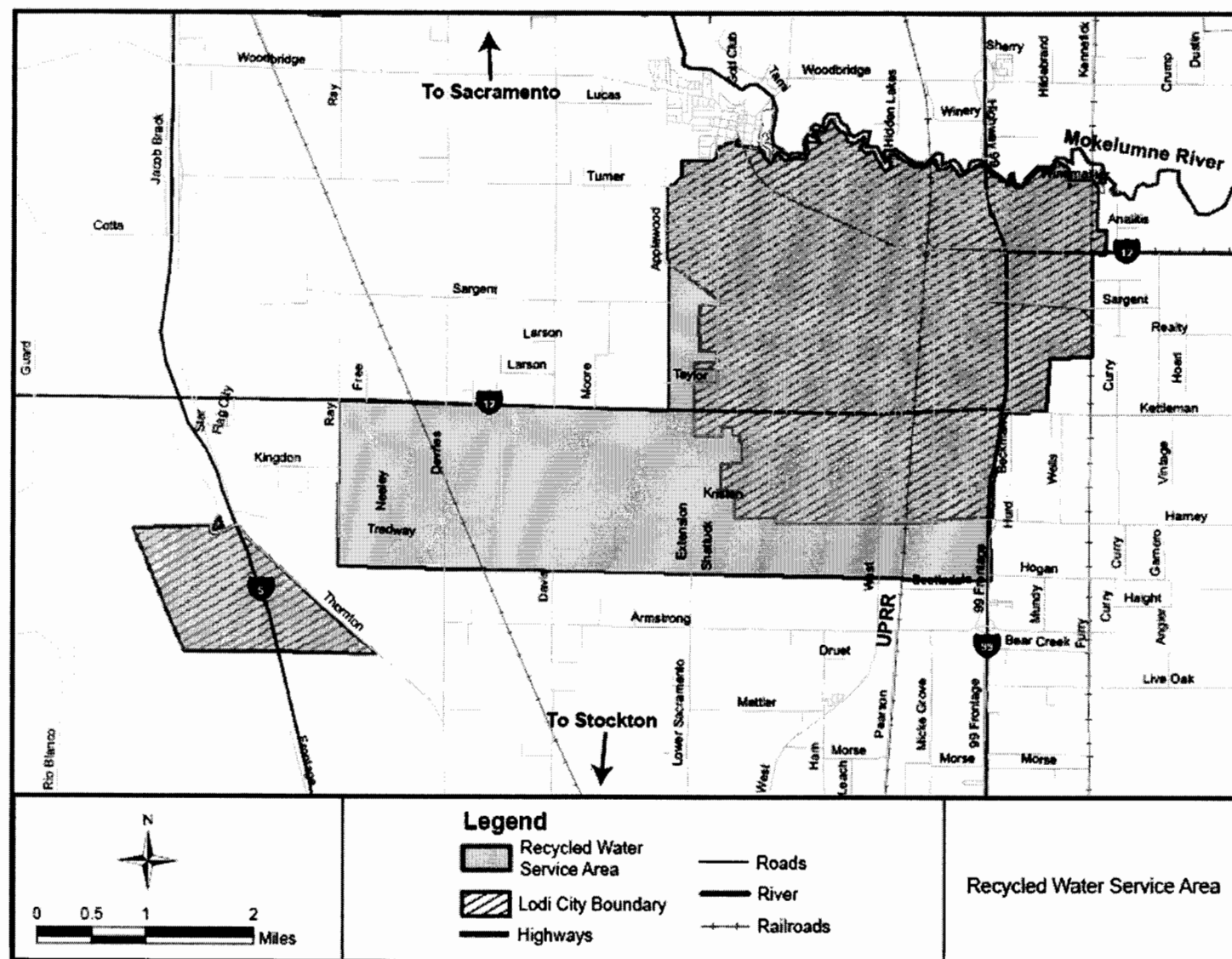


Figure 1: City of Lodi Recycled Water Service Area



Los Angeles  
Sacramento  
San Francisco  
San Jose  
Walnut Creek

November 2, 2006

Mr. Charles Swimley, Jr.  
Senior Civil Engineer  
Public Works Department  
City of Lodi  
221 West Pine Street  
P.O. Box 3006  
Lodi, CA 95241-1910

**Subject: Task Order No. Two: Recycled Water Master Plan**

Dear Mr. Swimley:

At the City of Lodi's request, RMC Water and Environment (RMC) is pleased to present this proposal to prepare a Recycled Water Master Plan for the City.

**BACKGROUND**

The City of Lodi recognizes several benefits for developing a Recycled Water Master Plan (RWMP) to define the recycled water market potential and identify recommended projects to deliver recycled water for non-potable uses within the City and proposed areas of annexation:

- **Improves Water Supply Reliability.** Groundwater is currently the sole source of water supply used within the City. With the groundwater basin in a state of overdraft, the City of Lodi is in need of alternative supply sources to meet future water demands, which are projected to more than double between 2005 and 2040. Use of recycled water to serve non-potable demands within this area would preserve groundwater supplies for potable uses and provide additional supply reliability for the City.
- **Reduces Wastewater Discharges.** The City of Lodi, like other wastewater dischargers in the Central Valley, is facing increasingly stringent wastewater discharge regulations. Increased use of recycled water is a key strategy for complying with these future discharge regulations and helps to position the City for ultimately achieving zero discharge.
- **Provides Interim Solution for Use of Supplemental WID Supply.** The City of Lodi currently contracts with Woodbridge Irrigation District (WID) for an annual surface water supply of 6,000 AFY which is currently unused because the City does not yet have facilities in place to develop that supply. Early construction of portions of the recycled water distribution infrastructure could provide the City of Lodi with an interim usage of the raw water supplies from WID to serve non-potable irrigation demands. These demands would ultimately be served by recycled water once construction of all of the recycled water distribution facilities is completed.

The scope of work presented below is for development of a Recycled Water Master Plan which will evaluate the potential for recycled water use within the City limits and proposed westside annexation areas

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**Innovative Solutions for  
Water and the Environment**

**SCOPE OF WORK**

RMC has identified the following tasks to complete the scope of work for this project. The tasks associated with this scope of work comply with the requirements set forth in Appendix B of the Water Recycling Funding Program Guidelines.

**Task 1 Project Coordination**

This task involves the coordination and communications between the RMC team and the City throughout the duration of the project, and the Quality Assurance/ Quality Control (QA/QC) activities for project deliverables. An initial kickoff meeting will be held with the Project Team to confirm overall approach and schedule. RMC will also provide the City with monthly status updates for the project.

**Deliverables:**

1. Kick off Meeting
2. Monthly Status Reports

**Assumptions:**

- RMC will attend at total of four (4) coordination meetings (including the Kickoff meeting) with the City to discuss project status as needed.

**Task 2 Recycled Water Feasibility Study**

RMC will document the recycled water potential in the City of Lodi by evaluating potential markets and confirming the quantity and quality of available recycled water supplies. As part of this task, RMC will complete the following:

**Key Assumptions Technical Memorandum.** RMC will prepare a technical memorandum documenting the key assumptions that will be used in the development of the RWMP, including but not limited to: market assessment methodology, design criteria, and cost criteria. The TM will be revised based on comments from the City.

**Approach Workshop.** Upon completion of the Key Assumptions TM, RMC will conduct a workshop with City Council to review the key assumptions and general approach of the RWMP. This workshop will also include discussion of how the RWMP will interface with the Joint RWMP that the City is conducting with Stockton.

**Data Collection and Review.** RMC will collect and review any pertinent information for this project (e.g., previous planning reports; land use information; water use records to determine non-potable demands; recycled/raw water supply and quality data; available survey/geotechnical data; etc).

**Market Assessment.** RMC will build upon previous studies to conduct a detailed recycled water market assessment for the City. This assessment will involve the following tasks:

- **User Identification.** RMC will identify both urban, industrial and agricultural users within and surrounding the City of Lodi that could potentially use recycled water to meet non-potable demands. This will include identification of both existing and future recycled water users.
- **Demand Assessment.** Using water use records and evapotranspiration (E/T) data, RMC will determine the timing and quantity of non-potable demands for each of the potential recycled water users identified. This will include quantification of average annual demands, peak month demands, and peak hour demands.
- **Water Supply Assessment.** RMC will document the timing and quantity of recycled water and raw water WID supplies available to serve the non-potable demands within and around the City of Lodi, including peak month and annual supply availability.

- ***Water Quality Assessment.*** RMC will gather water quality data for the various water supply sources currently used in the study area, including (1) existing recycled water; (2) raw surface water (Mokelumne River) supplies; and (3) groundwater supplies. RMC will also evaluate water quality data projected for future recycled water supplies when the Lodi starts using the surface water supplies from WID.

RMC will evaluate the quality of each of these supplies in relation to the water quality needs of the potential urban, industrial and agricultural recycled water users. This will include evaluation of various water quality parameters of interest (e.g., total dissolved solids (TDS), chloride, sodium, ammonia, nitrate, nitrite, etc) to determine suitability as an irrigation supply, especially for sensitive crops types.

**Recycled Water Feasibility Workshop.** RMC will hold a workshop with the City and other interested stakeholders to present the preliminary results from the recycled water market assessment and review assumptions and outstanding items.

*Deliverables:*

1. Draft and Final Key Assumptions TM
2. Approach Workshop
3. Project Feasibility Workshop

*Assumptions:*

- Pertinent information will be readily accessible.
- The Recycled Water Feasibility workshop will be a half-day workshop, hosted by the City of Lodi

**Task 3 Alternatives Development and Evaluation**

RMC will develop and evaluate recycled water alternatives for delivering recycled water and non-potable water to potential recycled water customers within the City of Lodi. This task will involve the following:

- **Development of Conceptual Alternatives.** Based on the results of the market assessment, RMC will develop conceptual alternatives, including preliminary alignments (e.g. specific pipeline routes) for the recycled water and non-potable distribution systems, pumping/storage facility locations, and potential demands served by each alternative. Potential satellite treatment opportunities will be developed as appropriate. These conceptual alternatives will include an interim alternative to use raw water WID supplies to serve non-potable demands. RMC will prepare a technical memorandum describing the Conceptual Alternatives for the City's review and feedback. As part of this task, these alternatives will be compared to potential potable water supply alternatives that can be implemented to meet demands.
- **Alternative Refinement and Evaluation.** Based on preliminary feedback on the conceptual alternatives, RMC will refine the conceptual alternatives. A hydraulic model (e.g. H2O Map) will be used to determine facility requirements and sizing (e.g., pipeline, storage, pumping) for each alternative. In addition, planning level cost estimates (including capital costs, operation and maintenance costs, and unit costs) will be developed for each alternative.
- **Alternatives Evaluation Workshop/Mid-Course Review Meeting.** RMC will present the preliminary results of the alternatives evaluation at a workshop with the City and other interested stakeholders, including representatives from the State Water Resources Control Board.

*Deliverables:*

1. Conceptual Alternative TM
2. Alternatives Evaluation Workshop

Assumptions:

- No more than five recycled water alternatives, including a “No Project Alternative”, will be developed.
- RMC will develop a hydraulic model using H2O Map (or similar) for determination of distribution facility sizing requirements.
- The Alternatives Evaluation Workshop will be a half-day workshop.

**Task 4 Recycled Water Outreach**

RMC will conduct various outreach activities to potential recycled water users and the general public in order to educate them on the benefits of recycled water use. This task will involve:

- **Initial Meetings with Potential Recycled Water Users/Opinion Leaders.** RMC will meet with the largest potential recycled water users and opinion leaders (e.g., major vineyards) to describe the purpose of the project, gauge their potential interest in using recycled water and discuss any preliminary concerns they may have relating to water quality and supply reliability.
- **Follow-Up Meetings with Potential Recycled Water Users.** Following development of recycled water alternatives, RMC will hold follow-up meetings with the largest potential recycled water users to present the alternatives and discuss any concerns they may have with implementation of the project. The results of these meetings will be incorporated into the recycled water master plan.
- **General Public Outreach.** RMC will develop a recycled water brochure that describes the proposed project, the benefits of recycled water and safety of its use. RMC will also help to facilitate a public workshop to address any questions and/or concerns that the public may have.

Deliverables:

1. Large User Meetings
2. Public Outreach Materials
3. Public Workshop

Assumptions:

- There will be a total of 5 initial meetings and 5 follow-up with the largest potential recycled water users
- The budget for development of the recycled water brochure will be limited to \$10,000.

**Task 5 Recycled Water Master Plan**

This task involves development of Recycled Water Master Plan for the City of Lodi. The RWMP will include at least two phases – an interim phase that involves use of recycled water infrastructure to convey raw WID supplies; and a long-term phase that involves serving the annexation area, and future development located in the General Plan’s sphere of influence.

- **Draft RWMP.** RMC will develop a Draft RWMP that documents the results from Tasks 2 -4 and presents the recommended recycled water project. Specifically, the Draft RWMP will include:
  - A summary of study area characteristics, including information on project setting (e.g., hydrologic features, groundwater basins, population and land use); water supply characteristics and facilities; wastewater characteristics and facilities.
  - Recycled water market assessment results (potential users and demands, water quality requirements, etc).
  - Specific alignments, locations and sizes for the recycled water and non-potable system alternatives and recommended project(s)

- Preliminary cost estimates (capital, O&M, annual) for each alternative and the recommended project(s).
  - Potential funding/financing options to implement the recommended recycled water and non-potable projects.
  - A draft implementation plan that outlines strategies for interagency agreements with Woodbridge Irrigation District, additional recycled water outreach, permitting, and environmental compliance for the recommended project(s).
  - Preliminary recycled water market assurances for the recommended project(s) and a description of the anticipated schedule for future connections.
  - Potential policy option for developers as it relates to the installation of recycled water and/or non-potable distribution piping.
- **Draft RWMP Workshop.** RMC will facilitate a workshop with City staff and other interested stakeholders to review the recommendations of the Draft RWMP and solicit comments and feedback.
  - **Final RWMP.** RMC will prepare a Final RWMP that incorporates all comments received on the Draft.

**Deliverables:**

1. Draft Master Plan
2. Final Master Plan

**Assumptions:**

- The Draft Master Plan will be provided electronically.
- The Master Plan Workshop will be a half-day workshop.
- Ten (10) copies of the Final Master Plan will be printed and distributed to the City.

**FEE ESTIMATE**

The fee estimate and for this scope of work is attached.

**SCHEDULE**

The tentative schedule for this scope of work is attached.

RMC greatly appreciates this opportunity to continue providing our consulting services to the City of Lodi. If you have any questions or require further information, please do not hesitate to call me at 415.321.3414.

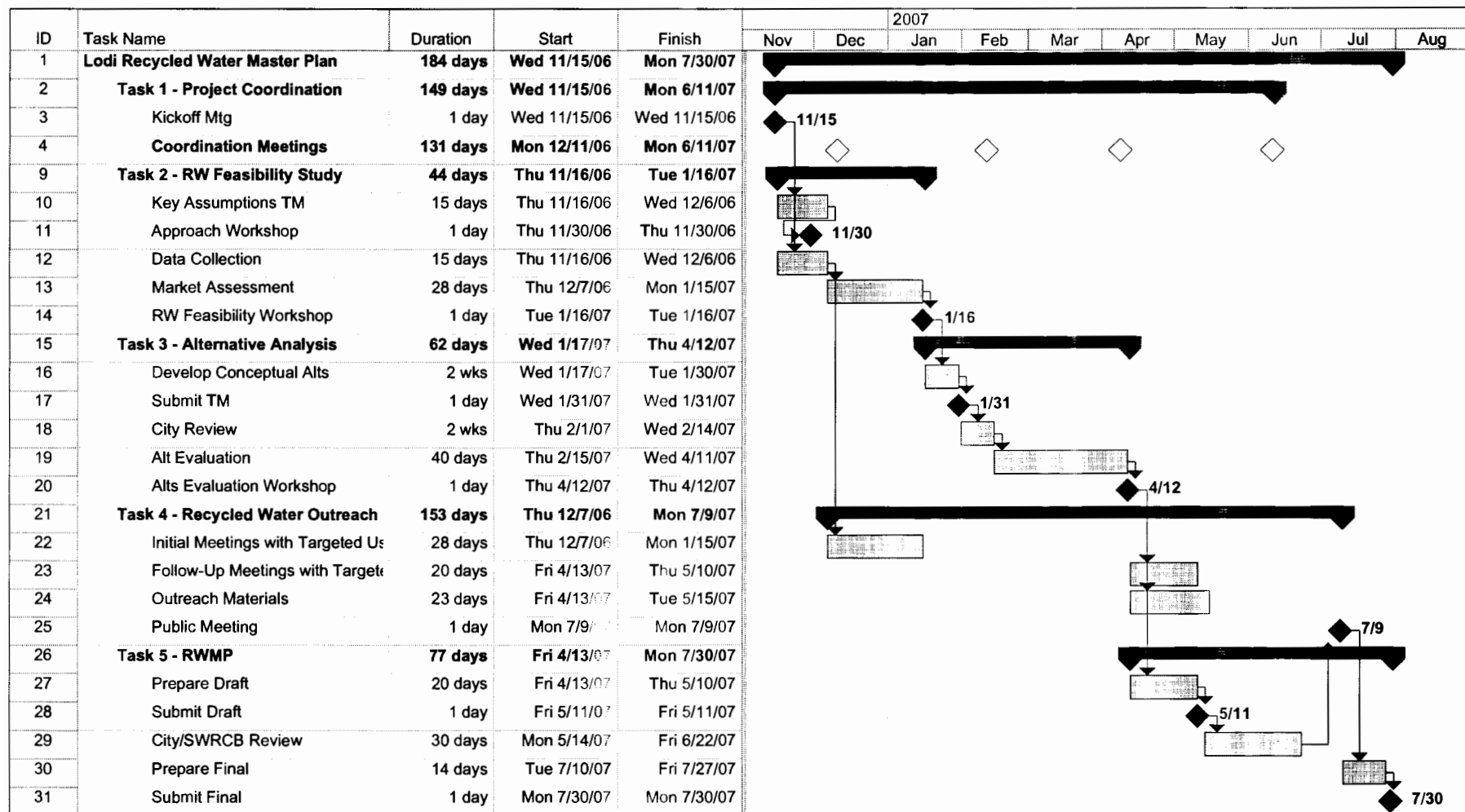
Very truly yours,  
**RMC Water and Environment**

Rachael M. Wark, P.E.  
Senior Project Manager

City of Lodi  
Recycled Water Master Plan  
Fee Estimate

Task	Description	RMC Labor Hours					Total Hours	RMC Labor (\$)	Sub Costs Lodi Graphic Design Firm	ODCs (\$)	Mark-up (10%)	TOTAL COST (\$)
		PIC	PM	PE 2	PE 1	Admin						
	2005	\$218/hr	\$198/hr	\$154/hr	\$138/hr	\$96/hr						
<b>1.0 PROJECT COORDINATION</b>		<b>22</b>	<b>44</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>75</b>	<b>\$14,300</b>	<b>\$0</b>	<b>\$400</b>	<b>\$40</b>	<b>\$14,740</b>
	Project Coordination	14	40			9	63	\$11,800	\$0	\$400	\$40	\$12,240
	QA/QC	8	4				12	\$2,500	\$0		\$0	\$2,500
<b>2.0 B RECYCLED WATER FEASIBILITY STUDY</b>		<b>18</b>	<b>60</b>	<b>116</b>	<b>48</b>	<b>0</b>	<b>242</b>	<b>\$40,400</b>	<b>\$0</b>	<b>\$400</b>	<b>\$40</b>	<b>\$40,840</b>
	Key Assumptions TM	2	8	16			26	\$4,500	\$0		\$0	\$4,500
	Approach Workshop	4	8				12	\$2,500	\$0	\$50	\$5	\$2,555
	Data Collection		8	24			32	\$5,300	\$0	\$150	\$15	\$5,465
	Market Assessment	8	24	60	40		132	\$21,300	\$0		\$0	\$21,300
	RW Feasibility Workshop	4	12	16	8		40	\$6,800	\$0	\$200	\$20	\$7,020
<b>3.0 ALTERNATIVE ANALYSIS</b>		<b>14</b>	<b>44</b>	<b>84</b>	<b>80</b>	<b>0</b>	<b>222</b>	<b>\$35,800</b>	<b>\$500</b>	<b>\$200</b>	<b>\$70</b>	<b>\$36,570</b>
	Development of Conceptual Alts - TM	2		20	12		42	\$6,800	\$500		\$50	\$7,350
	Alternative Refinement and Evaluation	8	24	48	60		140	\$22,200	\$0		\$0	\$22,200
	Alternative Evaluation Workshop	4	12	16	8		40	\$6,800	\$0	\$200	\$20	\$7,020
<b>4.0 RECYCLED WATER OUTREACH</b>		<b>30</b>	<b>64</b>	<b>72</b>	<b>0</b>	<b>0</b>	<b>166</b>	<b>\$30,300</b>	<b>\$8,000</b>	<b>\$1,000</b>	<b>\$900</b>	<b>\$40,200</b>
	Large Recycled Water User Meetings	24	40	40			104	\$19,300	\$0		\$0	\$19,300
	Education Materials	2	8	16			26	\$4,500	\$8,000	\$500	\$850	\$13,850
	Public Workshop	4	16	16			36	\$6,500	\$0	\$500	\$50	\$7,050
<b>5.0 RECYCLED WATER MASTER PLAN</b>		<b>14</b>	<b>44</b>	<b>100</b>	<b>56</b>	<b>0</b>	<b>214</b>	<b>\$34,900</b>	<b>\$1,500</b>	<b>\$1,000</b>	<b>\$250</b>	<b>\$37,650</b>
	Draft Master Plan	8	24	60	32		124	\$20,200	\$1,000		\$100	\$21,300
	Draft Master Plan Workshop	4	8	16	8		36	\$6,000	\$0		\$0	\$6,000
	Final Master Plan	2	12	24	16		54	\$8,700	\$500	\$1,000	\$150	\$10,350
<b>SUBTOTAL</b>												
	Subtotal Hours	98	242	372	184	9	919					
<b>Subtotal Cost</b>								<b>\$155,700</b>	<b>\$10,000</b>	<b>\$3,000</b>	<b>\$1,300</b>	<b>\$170,000</b>





Project: Lodi RWMP  
Date: November 2006

Task



Milestone



External Tasks



Split



Summary



External Milestone



Progress



Project Summary



Deadline

